

CLAIMS

1. A wireless computing apparatus having
a processor; and
5 a memory comprising computer executable instructions which, when executed are
operative to:
designate data on the wireless computing apparatus to backup;
generate a strongly collision free deterministic identifier for said data;
communicate said strongly collision free deterministic identifier to a backup
10 server; and
only if said backup server indicates that said data is not already available to said
backup server, send said data to said backup server.
2. The apparatus of Claim 1, wherein the apparatus further comprises a
15 transceiver and audio input/output components coupled to the processor and memory.
3. The apparatus of Claim 1 wherein said data is sent in compressed form to said
backup server.
- 20 4. The apparatus of Claim 1 wherein said strongly collision free deterministic
identifier comprises a hash value of said data.
5. The apparatus of Claim 4 wherein said hash value is generated by a
cryptographic hashing algorithm.
25
6. The apparatus of Claim 5 wherein said cryptographic hashing algorithm is
selected from the group of cryptographic hashing algorithms consisting of: MD2, MD4,
MD5, SHA, HAS160, HAVAL, RIPEMD (including RIPEMD – 128/160/255/320), TIGER,
Snefru, FFT-Hash I, FFT-Hash II, MAA, DSA, Cell hash, hash functions based on additive
30 knapsacks, and hash functions based on multiplicative knapsacks.

7. The apparatus of Claim 1 wherein said strongly collision free deterministic identifier is a cryptographic checksum.

8. The apparatus of Claim 1 wherein said strongly collision free deterministic identifier is wirelessly communicated via a communication medium selected from the group consisting of: RF signals, optical signals, audio modulated signals, and electromagnetic signals.

9. The apparatus of Claim 1 further comprising designating a data type not to backup from the wireless computing apparatus.

10. The apparatus of Claim 1 further comprising designating a data location not to backup from the wireless computing apparatus.

11. A wireless computing apparatus having
a processor; and
a memory comprising computer executable instructions which, when executed are operative to:
select a backup compilation;
receive a strongly collision free deterministic identifier for restoration data from said backup compilation from a backup server; and
only if said strongly collision free deterministic identifier is not identical to any strongly collision free deterministic identifier of data currently on the wireless computing apparatus, receiving said restoration data from said backup server.

12. A computer implemented method of backing up a wireless computing device, the method comprising:
designating data on the wireless computing device to backup;
generating a strongly collision free deterministic identifier for said data;
communicating said strongly collision free deterministic identifier to a backup server;
and

only if said backup server indicates that said data is not already available to said backup server, sending said data to said backup server.

13. The method of Claim 12 wherein said strongly collision free deterministic
5 identifier comprises a hash value of said data.

14. The method of Claim 12 further comprising designating a data type not to backup from the wireless computing device.

10 15. The method of Claim 12 further comprising designating a data location not to backup from the wireless computing device.

16. A computer implemented method of restoring data to a wireless computing device, the method comprising:
15 selecting a backup compilation;
receiving a strongly collision free deterministic identifier for data from said backup compilation from a backup server; and
only if said strongly collision free deterministic identifier is not identical to any strongly collision free deterministic identifier of data on the wireless computing device,
20 receiving said data from said backup server.

17. A computing server apparatus having
a processor; and
a memory comprising computer executable instructions which, when executed are
25 operative to:
receive a request to backup data from a client device, including a separate identifier for said data;
determine that said separate identifier does not correspond to backup data already on the server apparatus; and
30 only if said separate identifier does not correspond to previously backed up data on the server apparatus, receiving said data from said client device.

Then in a dependent claim mentioned that the server got its own copy from another client.

The "strongly collision free deterministic identifier" may be re-mentioned in a dependent claim.

5

18. The apparatus of Claim 17, wherein said separate identifier is a strongly collision free deterministic identifier.

10 19. The apparatus of Claim 17, wherein further said backup data on the server apparatus was previously backed up from a client device.